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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/656,170 | 09/06/2000 | Motoyasu Taguchi | 071671/0155 | 8925 |

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FOLEY AND LARDNER
SUITE 500
3000 K STREET NW
WASHINGTON, DC 20007

EXAMINER

LIU, SHUWANG

| ART UNIT | PAPER NUMBER |
|----------|--------------|
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2634

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DATE MAILED: 11/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

KS

Office Action Summary

Application No.

09/656,170

Applicant(s)

TAGUCHI, MOTOYASU

Examiner

Shuwang Liu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 September 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 September 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) ✓
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948) ✓
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3 and 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. Figure 8 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

2. Claims 1, 2, 5, 12, 13 and 15 are objected to because of the following informalities:

(1) In claims 1 and 12, line 11, change "the operation" to - -an operation- -;

(2) In claims 2 and 13, line 5, change "judging" to - -judgment- - in order to be consistent with the phrase used in claims 1 and 12, respectively;

(2) In claim 5, line 4, insert - -a- - before "predetermined"; and

(3) In claim 15, line 4, insert - -a- - before "predetermined";

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-22 and 24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

(1) Regarding claims 1 and 12, claims recite the limitation "the finger circuits" in line 6. There is insufficient antecedent basis for this limitation in the claims since "the finger circuits" is not introduced before.

(2) Regarding claims 2-5, 11, 13-16, 22 and 24, claims recite the limitation "the operation control clock supply", for example, in line 2 of claims 2-5. There is insufficient antecedent basis for this limitation in the claims since "the operation control clock supply" is not introduced before.

(3) Regarding claims 9 and 20, it is unclear what meaning is for "adding together the **results** of the computation **for one frame**" as recited in claims since there is only one result for one frame.

(4) Regarding claims 7 and 18, claims recite the limitation "the memory" in line 2. There is insufficient antecedent basis for this limitation in the claim since "the memory" is not introduced before.

(5) Regarding claims 6 and 7, claims recite the limitation "the threshold value" in line 2. There is insufficient antecedent basis for this limitation in the claims since "the threshold value" is not introduced before.

(6) Regarding claim 10 and 21, claims recite the limitation "the maximum level" in line 4, "the electric field levels" in line 5, and "the threshold value" in line 6. There are

insufficient antecedent basis for these limitations in the claims since these limitations are not introduced before. Furthermore, it is unclear what "them" in line 5 refers to.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-5, 8, 11-16, 19 and 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted art (figure 8) in view of Mizoguchi et al. (US 5,566,364).

As discloses in figure 8 of the admitted art, the admitted art discloses:

(1) regarding claims 1-5, 11-16 and 22-24:

a receiving terminal for CDMA system comprising at least a finger circuit (element) for taking a correlation of a received signal from a radio circuit connected to an antenna (110) and known signal and feeding out the correlated received signal, and a lake circuit for combining a plurality of outputs from a finger circuit having finger circuit elements and executing level measurement (pages 1 and 2 in the specification).

The admitted art discloses all of the subject matter as described above except for specifically teaching the lake circuit includes a level judgment circuit for executing electric field judgment according to the correlated received signal from the finger circuit

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and a predetermined threshold level, the operation of a predetermined circuit being suspended according to the result of the level judgment as claimed.

Mizoguchi et al., in the same field of endeavor, teaches a level judgment circuit (6 and 7 in figure 1) for executing electric field judgment according to the received signal level from the receiver circuit and a predetermined threshold level (a predetermined electric field level, see column 4, lines 7-9), the operation of a predetermined circuit (a receiver) being suspended according to the result of the level judgment (column 4, lines 9-17, column 5, line 3-column 6, lines 67). It is inherent that the receiver includes a clock supply (timing circuit). The operation control clock (or timing circuit) as recited in claims 2, 3, 13 and 14 should be suspended as the receiver is suspended. Furthermore, Mizoguchi et al. discloses one receiver (including operation control clock supply) is suspended after the lapse of a predetermined period of time as recited in claims 4 and 15 and is resumed after the lapse of a predetermined period of time as recited in claims 5 and 16.

It would be desirable to reduce power consumption in the radio communication device by periodically supplying power to the respective receivers at given interval when judgment is made (column 2, lines 3-19 and column 6, lines 66-67). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to include the level judgment circuit as taught by Mizoguchi et al. in the lake circuit of the admitted art to control the finger circuit in order to reduce power consumption in the radio communication device.

(2) regarding claims 8 and 19:

The admitted art further discloses that the finger circuit takes correlation of output signal data fed out from the radio circuit and known signal data to each other, demodulates the correlated data to symbol unit data, and feeds out the demodulated data to the lake circuit (see pages 1 and 2 in the specification).

7. Claims 6, 7, 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted art (figure 8) and Mizoguchi et al. (US 5,566,364) as applied in claims 1 and 11 above, and further in view of Ishikura (US 5,239,684) (whereby claims 7 and 18 are interpreted to be dependent on claims 6 and 17, respectively).

The admitted art and Mizoguchi et al. disclose all of the subject matter as described above except for specifically teaching a memory which is an E2PROM, and threshold data therefrom is supplied under CPU control to the lake circuit as claimed.

Ishikura et al., in the same field of endeavor, teaches a memory (107 in figure 1 and 2) which is an E2PROM, and threshold data therefrom is supplied under CPU (161 in figure 2) control to a circuit (column 4, lines 11-12 and column 8, lines 56-66).

It is well known that the area of an E2PROM cell is about one fifth of the area of a SAR cell so the area required by a given RAM on the semiconductor chip is greatly reduced, or RAM storage capacity can be increased. Furthermore, E2PROM setting value can be updated easily. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to employ E2PROM as taught by Ishikura to

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store threshold value of the admitted art and Mizoguchi et al. in order to update stored value easily.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shuwang Liu whose telephone number is (703) 308-9556.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin, can be reached at (703) 305-4714.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9306 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.



Shuwang Liu
Primary Examiner
Art Unit 2634

October 25, 2003